

Class B Certification Application

Under Part 15, Subpart B

EUT Mainboard

MODEL A815EP

FCC ID PRB-MB-A815EP-11

SRT REPORT # FID1D036

PREPARED FOR

ZIDA TECHNOLOGIES LTD.

8/F, BLOCK A, GOODVIEW INDUSTRIAL BUILDING,
11 KIN FAT STREET, TUEN MUN,
HONG KONG

ZIDA TECHNOLOGIES LTD.

8/F, BLOCK A, GOODVIEW INDUSTRIAL BUILDING,
11 KIN FAT STREET, TUEN NUM, HONG KONG
TEL : 852-22766349 FAX : 852-24560717

Federal Communications Commission
Authorization and Evaluation Division
7435 Oakland Mills Road
Columbia, MD 21046

To whom it may concern :

This is to serve as proper written authorization that Spectrum Research and Testing Laboratory, Inc., 15200, Shady Grove Rd., Rockville, MD. 20850, will act as our representative in all matters relating to FCC applications for equipment approval. This includes the signing of all related documents, the transmitting of required fees, and receiving correspondence and notifications from the FCC. All acts performed by Spectrum Research and Testing Laboratory, Inc., especially modifications to our equipment under testing will be carried out on our behalf.

Meantime, the applicant certifies that in the case of an individual applicant (e.g., corporation), no party to the applicant is subject to a denial of federal benefits, that includes FCC denial of federal benefits, that includes FCC benefits, pursuant to Section 5301 of the Anti-Drug Abuse Act of 1998, 21 U.S.C. 862. For a definition of a " party " for these purposes see 47 C.F.R. 1.2002 (b).

If you have any questions regarding our applications for equipment approval, please contact Spectrum Research and Testing Laboratory, Inc. by calling (301) 670-2818.

Respectfully,

Kirk Tanh
(Name, Surname)

R.D. MANAGER
(Position/Title)

Effective Dates :

From 1 May 2001 to 31 May 2001

DATE : 8 MAY 2001

EMI TESTING REPORTEUT : MainboardMODEL : A815EPFCC ID : PRB-MB-A815EP-11**PREPARED FOR**ZIDA TECHNOLOGIES LTD.8/F, BLOCK A, GOODVIEW INDUSTRIAL BUILDING,11 KIN FAT STREET, TUEN MUN,HONG KONG**PREPARED BY**

SPECTRUM RESEARCH & TESTING LABORATORY INC.
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TABLE OF CONTENTS

1. TEST REPORT CERTIFICATION.....	5
2. TEST STATEMENT	
2 . 1 TEST STATEMENT.....	6
2 . 2 DEPARTURE FROM DOCUMENT POLICIES, PROCEDURE OR SPECIFICATIONS, TEST STATEMENT.....	6
3. EUT MODIFICATIONS.....	7-8
4. CONDUCTED POWER LINE TEST	
4 . 1 TEST EQUIPMENT.....	9
4 . 2 TEST PROCEDURE.....	9
4 . 3 TEST SETUP.....	10
4 . 4 CONFIGURATION OF THE EUT.....	11-12
4 . 5 EUT OPERATING CONDITION.....	13
4 . 6 EMISSION LIMITS.....	13
4 . 7 CONDUCTED EMISSION TEST RESULTS.....	14
5. RADIATED EMISSION TEST	
5 . 1 TEST EQUIPMENT.....	15
5 . 2 TEST PROCEDURE.....	16
5 . 3 TEST SETUP.....	16-17
5 . 4 CONFIGURATION OF THE EUT.....	18
5 . 5 EUT OPERATING CONDITION.....	18
5 . 6 EMISSION LIMITS.....	18
5 . 7 RADIATED EMISSION TEST RESULTS.....	19-20

1. TEST REPORT CERTIFICATION**APPLICANT** ZIDA TECHNOLOGIES LTD.**ADDRESS** 8/F, BLOCK A, GOODVIEW INDUSTRIAL BUILDING,
11 KIN FAT STREET, TUEN MUN,
HONG KONG**EUT DESCRIPTION** Mainboard(A) POWER SUPPLY 115/230V(B) MODEL A815EP(C) FCC ID PRB-MB-A815EP-11**FINAL TEST DATE** 05/22/2001**MEASUREMENT PROCEDURE USED**

* PART 15 SUBPART B OF FCC RULES AND REGULATIONS (47 CFR PART 15)

* ANSI C63.4 - 1992

* TEST PROCEDURE AND DATA ARE TRACEABLE TO NATIONAL OR INTERNATIONAL STANDARDS.

We hereby certify that

The measurements contained in this report were made in accordance with the procedures indicated, and the energy emitted by the equipment was found to be within the limits applicable.

TESTING ENGINEER _____ **DATE** _____

Page Liu

SUPERVISOR _____ **DATE** _____

Sunyou Chen

APPROVED BY _____ **DATE** _____

Johnson Ho

2. TEST STATEMENT

2 . 1 TEST STATEMENT

1. This statement is to explain the test condition of this project.
The EUT was the test condition of each test item.
2. The data was shown in this report reflects the worst – case data for the condition as the summary of test result.
3. EUT conditions.

PC CPU : Intel Pentium III 933MHz, clock chip : 133MHz
Resolution : 640 * 480

4. NVLAP logo is to be approved by management (it is according to NVLAP requirement if it need) before use.

2 . 2 DEPARTURE FROM DOCUMENT POLICIES, PROCEDURE OR SPECIFICATIONS , THE STATEMENT

1. Did have
Any departure from document policies & procedures or from specifications.
Yes _____, No _____ .
If yes , the description as below.
2. The certificate and report shall not be reproduced except in full , without the written approval of SRT laboratory.
3. The report must not be used by the client to claim product endorsement by NVLAP or any agency the government.
4. This product is a test sample that was shown as the photos of this test report only.
5. The effect that the results relate only to the items tested.

3. EUT MODIFICATIONS

The following accessories were added to the EUT during testing

- 1). Replaced RN29, RN30 and RN31 by bead (MLB-3216-0030M4-N2).
- 2). Replaced R263, R264, R265, R266, R98 and R91 by bead (MLB-160808-0030A-N2).
- 3). Replaced C6 ~ C29 by 47pF capacitor.
- 4). To series a bead (MLB-160808-0030A-N2) at Pin23 and Pin24 of U2.
- 5). To series a bead (MLB-160808-0600B-N3) at Pin2, Pin3 of Q22 and Pin1, Pin9, Pin10, Pin18, Pin25 of U2 and Pin2, Pin3 of Q20.
- 6). Added a core (A5 FP 63.5*6.35*10) at IDE cable.
- 7). To shield ATX power cable.

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To whom it may concern :

This is to serve as proper notice that our company agrees to make
all modifications to FCC ID : PRB-MB-A815EP-11 as listed in section
3.0 of modification to submitted by Spectrum Research and Testing
Laboratory, Inc.

Respectfully,

KIER TANH
(Name, Surname)

CEO MANAGER
(Position/Title)

Effective Dates :

From 1 May 2001 to 31 May 2001DATE : 8 MAY 2001

4. CONDUCTED POWER LINE TEST

4 . 1 TEST EQUIPMENT

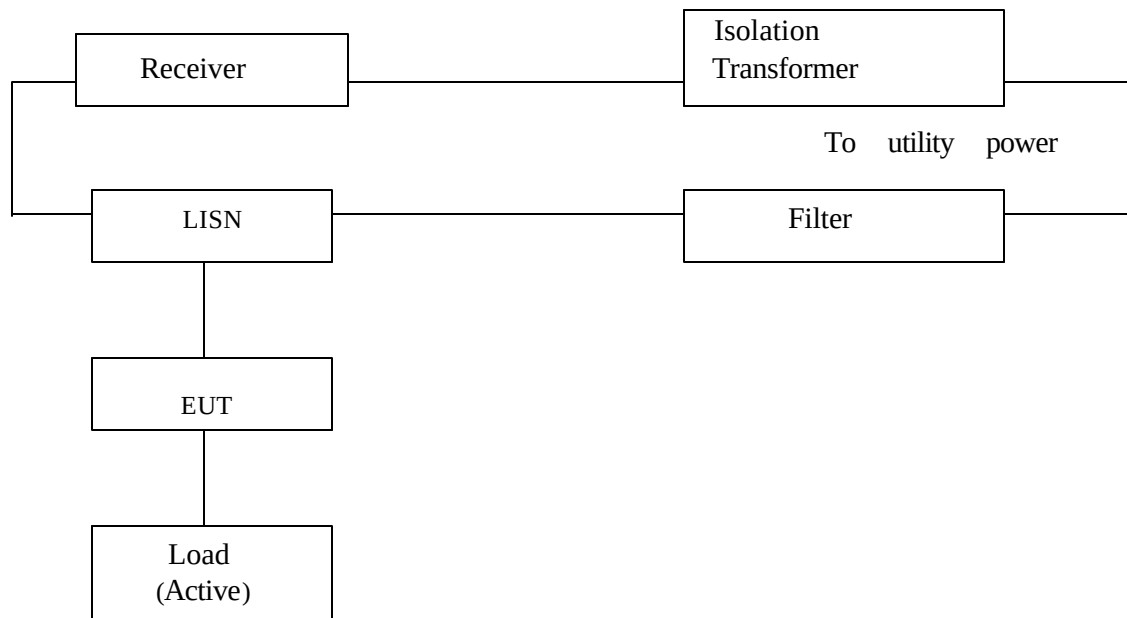
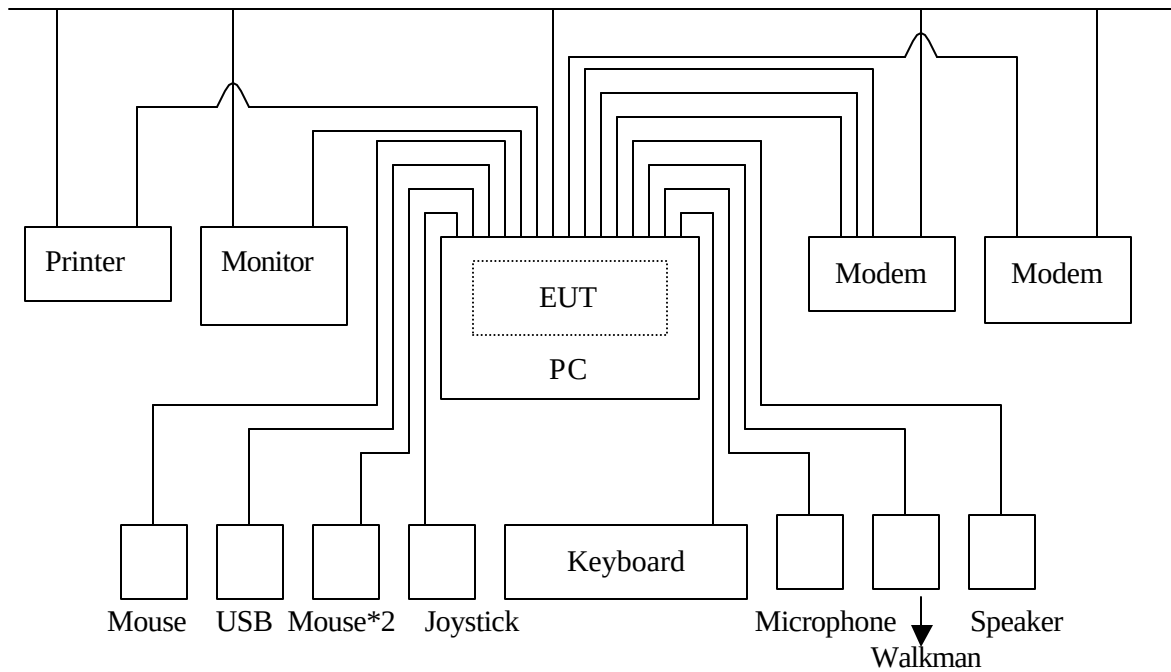
The following test equipment were used during the conducted power line test

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DATE OF CAL. & CAL. CENTER	DUE DATE	FINAL TEST
EMI TEST RECEIVER	9 KHz TO 30 MHz	ROHDE & SCHWARZ	ESHS30/ 826003/008	MARCH 2001 R & S	1Y	
EMI TEST RECEIVER	9 KHz TO 2750 MHz	ROHDE & SCHWARZ	ESCS30/ 830245/012	JULY 2000 ETC	1Y	√
LISN	50 uH, 50 ohm	SOLAR ELECTRONICS	9252-50- R-24-BNC/ 951315	JULY 2000 ETC	1Y	√
LISN	50uH, 50 ohm	SOLAR ELECTRONICS	9252-50- R-24-BNC/ 951318	JULY 2000 ETC	1Y	√
SIGNAL GENERATOR	9 KHz TO 1080 MHz	ROHDE & SCHWARZ	SMY01/ 841104/019	MARCH 2001 ETC	1Y	√
POWER CONVERTER	50 TO 300 VAC 47 TO 63/50/60Hz	AFC	AFC-2KBB/ F100030030	APRIL 2001 SRT	1Y	√

4 . 2 TEST PROCEDURE

The EUT was tested according to ANSI C63.4 - 1992. The frequency spectrum from 0.45 MHz to 30 MHz was investigated. The LISN used was 50 ohm / 50 uHenry as specified by section 5.1 of ANSI C63.4 - 1992 . Cables and peripherals were moved to find the maximum emission levels for each frequency.

4 . 3 TEST SETUP



4 . 4 CONFIGURATION OF THE EUT

The EUT was configured according to ANSI C63.4 - 1992. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

1. EUT

DEVICE	MANUFACTURER	MODEL #	FCCID
Mainboard	ZIDA TECHNOLOGIES LTD.	A815EP	PRB-MB-A815EP-11

2. INTERNAL DEVICES

DEVICE	MANUFACTURER	MODEL #	FCCID / DoC
N/A			

3. PERIPHERALS

DEVICE	MANUFACTURER	MODEL # SERIAL #	FCCID / DoC	CABLE
MONITOR	SAMSUNG	700IFT	DoC	1.5m unshielded power cord 1.2m shielded data cable (S2)
PRINTER	HP	2225C+	DSI6XU2225	1.5m unshielded power cord 1.2m shielded data cable (S2)
MODEM	SMARTEAM	103/212A	EF56A5103/212A	1.5m unshielded power cord 1.2m shielded data cable (S2)
MODEM	SMARTEAM	103/212A	EF56A5103/212A	1.5m unshielded power cord 1.2m shielded data cable (S2)
MOUSE	HP	M-S34	DZL210472	1.5m unshielded data cable
USB MOUSE	ALLSPIRIT	TUN2	DoC	1.5m unshielded data cable
USB MOUSE	ALLSPIRIT	TUN2	DoC	1.5m unshielded data cable
KEYBOARD	COMPAQ	286241-AB5	AQ6-71Z15	1.2m unshielded data cable
SPEAKER	JUSTER	JB-599	N/A	1.2m unshielded data cable
MICRO-PHONE	TAKY	UDM-606	N/A	1.5m unshielded data cable
WALKMAN	CURTIS	FT-28	N/A	1.2m unshielded data cable
JOYSTICK	LOGITECH	J-YG8	DoC	1.5m unshielded data cable
POWER SUPPLY	MERIDIAN	CWT-200AT X(SFX)	DoC	N/A
HDD	QUAMTUM	FIREBALL EX6.4A	DoC	N/A
FDD	PANASONIC	JU-257A606P	N/A	N/A
CD ROM	TEAC	CD-532E	N/A	N/A
VGA CARD	MSI	MS-8801	DoC	N/A

REMARK

- Cable - S1 Single point shielding.
S2 360 shielding.
S3 Double point shielding
- Cables - All 1m or greater in length - bundled according to regulations.

4 . 5 EUT OPERATING CONDITION

Operating condition is according to ANSI C63.4 - 1992.

1. EUT power on.
2. Under WIN 98 run "EMI TEST" program.
" H" pattern sent to the following peripherals
 - Monitor or VGA
 - RS232 (modem)
 - Keyboard
 - Printer
 - FDD
 - HDD
3. CPU : Inter Pentium III 933MHz, clock chip : 133MHz
4. Resolution : 640*480

4 . 6 CONDUCTED POWER LINE EMISSION LIMIT

FREQUENCY RANGE (MHz)	CLASS A	CLASS B
0 . 45 - 1.705	60.0dB μ V	48.0dB μ V
1.705 - 30	69.5dB μ V	48.0dB μ V

NOTE In the above table, the tighter limit applies at the band edges.

4 . 7 CONDUCTED POWER LINE TEST RESULTS

The frequency spectrum from 0.45 MHz to 30 MHz was investigated.
All readings are quasi – peak values with a resolution bandwidth
of 9 KHz.

Temperature 28
Humidity 56 %RH
Test result

FREQUENCY (MHz)	LINE 1 (dBuV)	LINE 2 (dBuV)	LIMIT (dBuV)
0.61	41.4	41.0	48.0
0.77	42.9	*	48.0
0.92	*	41.5	48.0
2.00	40.3	40.4	48.0
9.13	35.1	*	48.0
22.83	38.0	40.8	48.0

REMARKS

1. * = Measurement does not apply for this frequency
2. Uncertainty in conducted emission measured is <+/- 2dB
3. Any departure from specification N/A

SIGNED BY TESTING ENGINEER _____

5. RADIATED EMISSION TEST

5.1 TEST EQUIPMENT

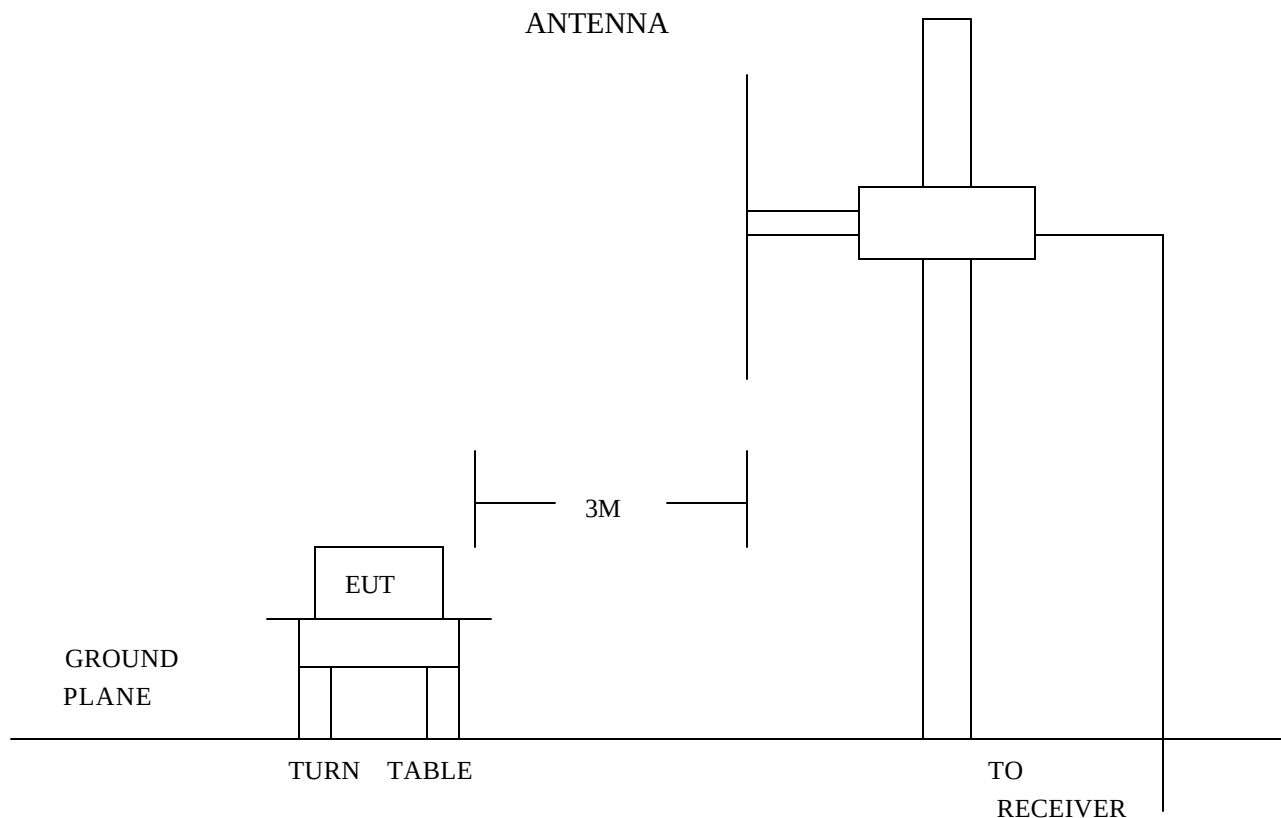
The following test equipment were used during the radiated emission test

EQUIPMENT / FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL # / SERIAL #	DATE OF CAL. & CAL. CENTER	DUE DATE	FINAL TEST
TEST RECEIVER	9 KHz TO 2.75 MHz	R & S	ESCS30/830245/012	JULY 2000 ETC	1Y	√
TEST RECEIVER	20 MHz TO 1000 MHz	R & S	ESVS30/841977/003	JULY 2000 ETC	1Y	√
SPECTRUM ANALYZER	100 Hz TO 1500 MHz	HP	8568B/3001A04931	AUG. 2000 ETC	1Y	
SPECTRUM ANALYZER	9 KHz TO 22 GHz	HP	8593E/3322A00670	MARCH 2001 ETC	1Y	
SIGNAL GENERATOR	9 KHz TO 1080 MHz	ROHDE & SCHWARZ	SMY01/841104/019	MARCH 2001 ETC	1Y	√
DIPOLE ANTENNA	28 MHz TO 1000 MHz	EMCO	3121C/9003-534	FEB. 2001 SRT	1Y	
DIPOLE ANTENNA	28 MHz TO 1000 MHz	EMCO	3121C/9611-1239	FEB. 2001 SRT	1Y	
BI-LOG ANTENNA	26 MHz TO 2000 MHz	EMCO	3142/9701-1124	NOV. 2000 SRT	1Y	√
BI-LOG ANTENNA	26 MHz TO 2000 MHz	EMCO	3142/9608-1073	SET. 2000 SRT	1Y	
BI-LOG ANTENNA	26 MHz TO 1100 MHz	EMCO	3143/9509-1152	AUG. 2000 SRT	1Y	
PRE-AMPLIFIER	0.1 MHz TO 1300 MHz	HP	8447D/2944A08402	MARCH 2001 SRT	1Y	
PRE-AMPLIFIER	0.1 MHz TO 1300 MHz	HP	8447D/2944A06412	AUG. 2000 ETC	1Y	
HORN ANTENNA	1 GHz TO 18 GHz	EMCO	3115/9012-3619	JAN. 2001 ETC	1Y	√

5 . 2 TEST PROCEDURE

1. The EUT was tested according to ANSI C63.4 - 1992. The radiated test was performed at SRT lab's open site. This site is on file with the FCC laboratory division, reference 31040 / SIT.
2. The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.4-1992.
3. The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. All readings are above 1 GHz , peak values with a resolution bandwidth of 1 MHz . Measurements were made at 3 meters.
4. The antenna high were varied from 1 m to 4 m high to find the maximum emission for each frequency.
5. The antenna polarization Vertical polarization and horizontal polarization.

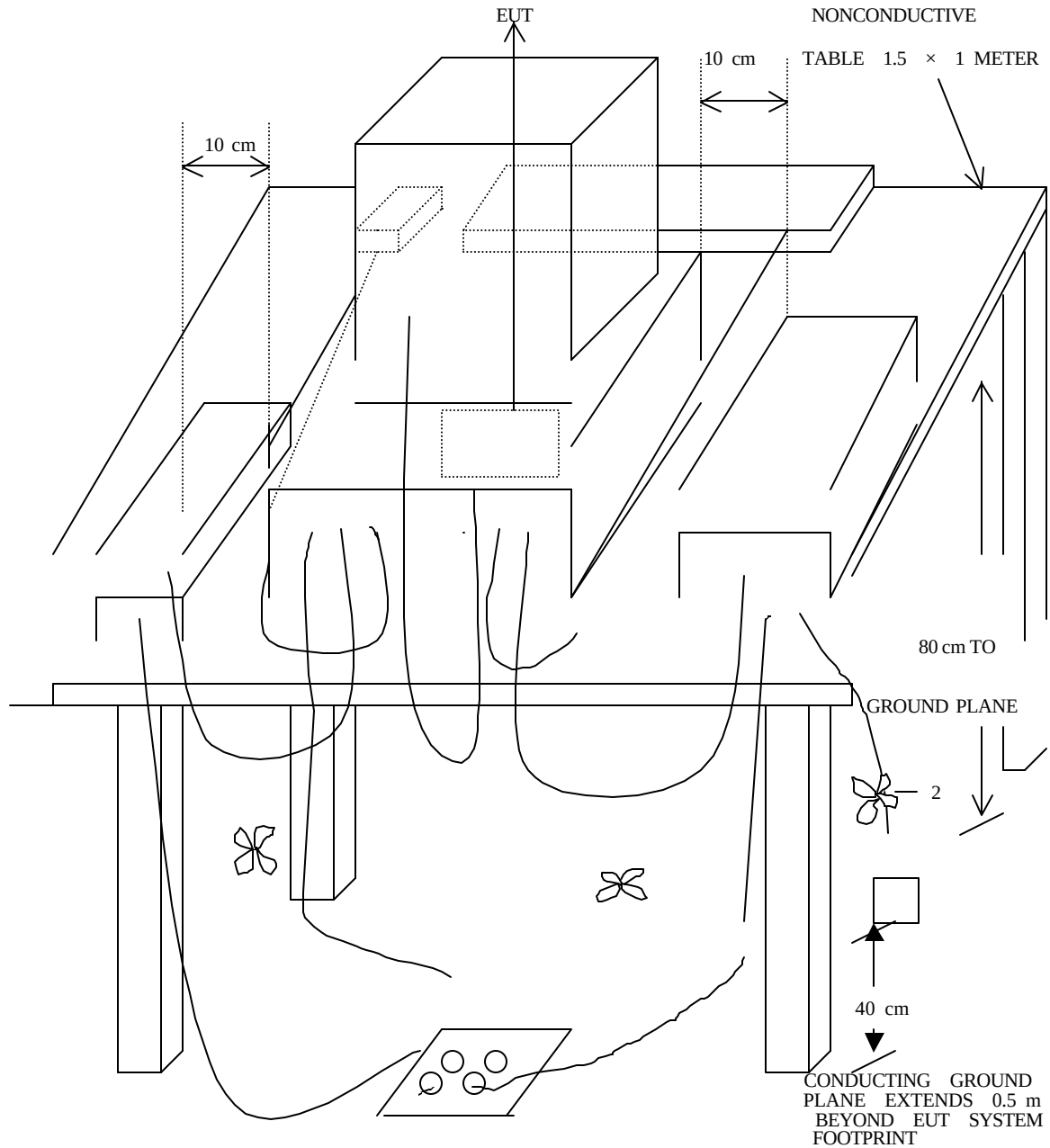
5 . 3 RADIATED TEST SET-UP



5 . 3 RADIATED TEST SET-UP

ANSI C63.4-1992

ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE RANGE IN THE RANGE OF 9 KHz TO 40 GHz



5 . 4 CONFIGURATION OF THE THE EUT

Same as section 4.4 of this report

5 . 5 EUT OPERATING CONDITION

Same as section 4.5 of this report.

5 . 6 RADIATED EMISSION LIMITS

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below

CLASS B

FREQUENCY (MHz)	DISTANCE (m)	FIELD STRENGTH (dBm V/m)
30 - 88	3	40.0
88 - 216	3	43.5
216 - 960	3	46.0
ABOVE 960	3	54.0

CLASS B (OPEN CASE)

FREQUENCY (MHz)	DISTANCE (m)	FIELD STRENGTH (dBm V/m)
30 - 88	3	46.0
88 - 216	3	49.5
216 - 960	3	52.0
ABOVE 960	3	60.0

CLASS A

FREQUENCY (MHz)	DISTANCE (m)	FIELDS STRENGTH (dBm V/m)
30 - 88	3	50.0
88 - 216	3	53.5
216 - 960	3	56.0
ABOVE 960	3	64.0

- NOTE**
1. In the emission tables above , the tighter limit applies at the band edges.
 2. Distance refers to the distance between measuring instrument ,

antenna , and the closest point of any part of the device or system.

5 . 7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 30 MHz to 10 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz . All readings are above 1 GHz , peak values with a resolution bandwidth of 1 MHz. Measurements were made at 3 meters.

Temperature 28
Humidity 60 %RH
Test result

FREQ. (MHz)	FACTOR (dB)	ANT. FACTOR (dB/m)	READING (dBmV)		EMISSION (dBmV/m)		LIMITS (dBmV/m)
			HORIZ	VERT	HORIZ	VERT	
132.5145	1.7	13.1	20.5	21.3	35.3	36.1	43.5
166.4389	1.9	11.8	22.1	23.0	35.8	36.7	43.5
147.4750	1.8	12.9	22.6	21.2	37.3	35.9	43.5
172.0550	1.9	11.4	23.2	22.5	36.5	35.8	43.5
669.2510	3.8	20.1	17.3	16.3	41.2	40.2	46.0
794.8160	4.2	21.6	17.6	17.2	43.4	43.0	46.0
1066.0000	3.0	24.8	22.8	23.2	50.6	51.0	54.0
1328.0000	3.4	25.5	18.0	18.2	46.9	47.1	54.0
1591.0000	3.8	26.5	14.5	14.1	44.8	44.4	54.0
1733.0000	3.9	27.2	*	14.3	*	45.4	54.0
1858.0000	4.0	27.8	14.1	13.2	45.9	45.0	54.0
2555.0000	5.2	28.1	17.4	14.3	50.7	47.6	54.0

REMARKS

1. *= Measurement does not apply for this frequency.
2. Uncertainty in radiated emission measured is <+/-4dB
3. Any departure from specification N/A
4. Factor will include cable loss and correction factor.
5. Sample calculation
Emission(dBμV/m) = Factor (dB) + Ant. Factor (dB/m) + reading (dBμV)
6. Close case

SIGNED BY TESTING ENGINEER _____

5 . 7 RADIATED EMISSION TEST RESULTS

The frequency spectrum from 30 MHz to 10 GHz was investigated.
 All readings from 30 MHz to 1 GHz are quasi-peak values
 with a resolution bandwidth of 120 KHz . All readings are above
1 GHz , peak values with a resolution bandwidth of 1 MHz.
 Measurements were made at 3 meters.

Temperature 28
 Humidity 60 %RH
 Test result

FREQ. (MHz)	FACTOR (dB)	ANT. FACTOR (dB/m)	READING (dBmV)		EMISSION (dBmV/m)		LIMITS (dBmV/m)
			HORIZ	VERT	HORIZ	VERT	
132.5129	1.7	13.1	30.9	25.3	45.7	40.1	49.5
264.9975	2.3	13.2	25.1	27.8	40.6	43.3	52.0
397.4460	2.7	16.0	26.5	20.2	45.2	38.9	52.0
529.9165	3.2	17.5	28.0	28.6	48.7	49.3	52.0
662.3478	3.8	20.1	22.5	24.8	46.4	48.7	52.0
794.8350	4.2	21.6	23.5	21.2	49.3	47.0	52.0
1066.0000	3.0	24.8	28.8	29.2	56.6	57.0	60.0
1328.0000	3.4	25.5	24.0	24.2	52.9	53.1	60.0
1591.0000	3.8	26.5	20.6	20.2	50.9	50.5	60.0
1733.0000	3.9	27.2	*	20.3	*	51.4	60.0
1858.0000	4.0	27.8	20.1	19.2	51.9	51.0	60.0
2555.0000	5.2	28.1	23.5	20.4	56.8	53.7	60.0

REMARKS

1. *= Measurement does not apply for this frequency.
2. Uncertainty in radiated emission measured is <+/-4dB
3. Any departure from specification N/A
4. Factor will include cable loss and correction factor.
5. Sample calculation

$$\text{Emission(dB}\mu\text{V/m)} = \text{Factor (dB)} + \text{Ant. Factor (dB/m)} + \text{reading (dB}\mu\text{V)}$$
6. Open case

SIGNED BY TESTING ENGINEER _____